

Status and plans for the PPR

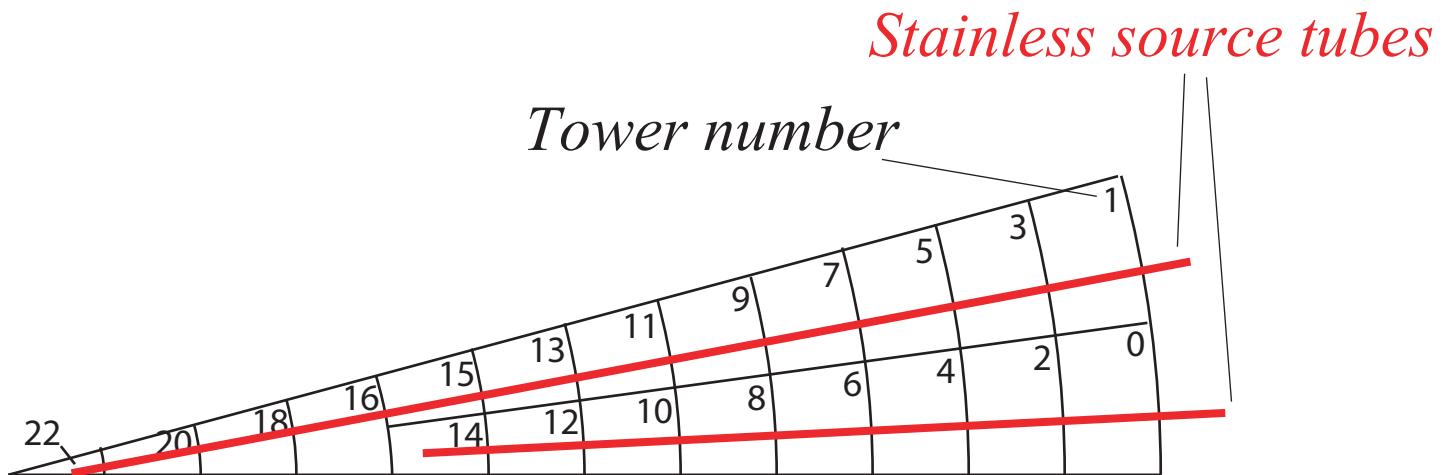
Satoru Uozumi

Apr-30 calorimeter meeting

1. Source calibration and new LERs
 - Comparison with old LERs
 - Problems on the new LERs
2. Plans for the summer shutdown

PPR source calibration

... done in Jan shutdown (sorry for long overdue...)



LER for tower i is defined as,

$$LER(i) = 2456 \times \alpha / \text{Peak}(i)$$

where $\text{Peak}(i)$ is peak response for the source in ADC counts.

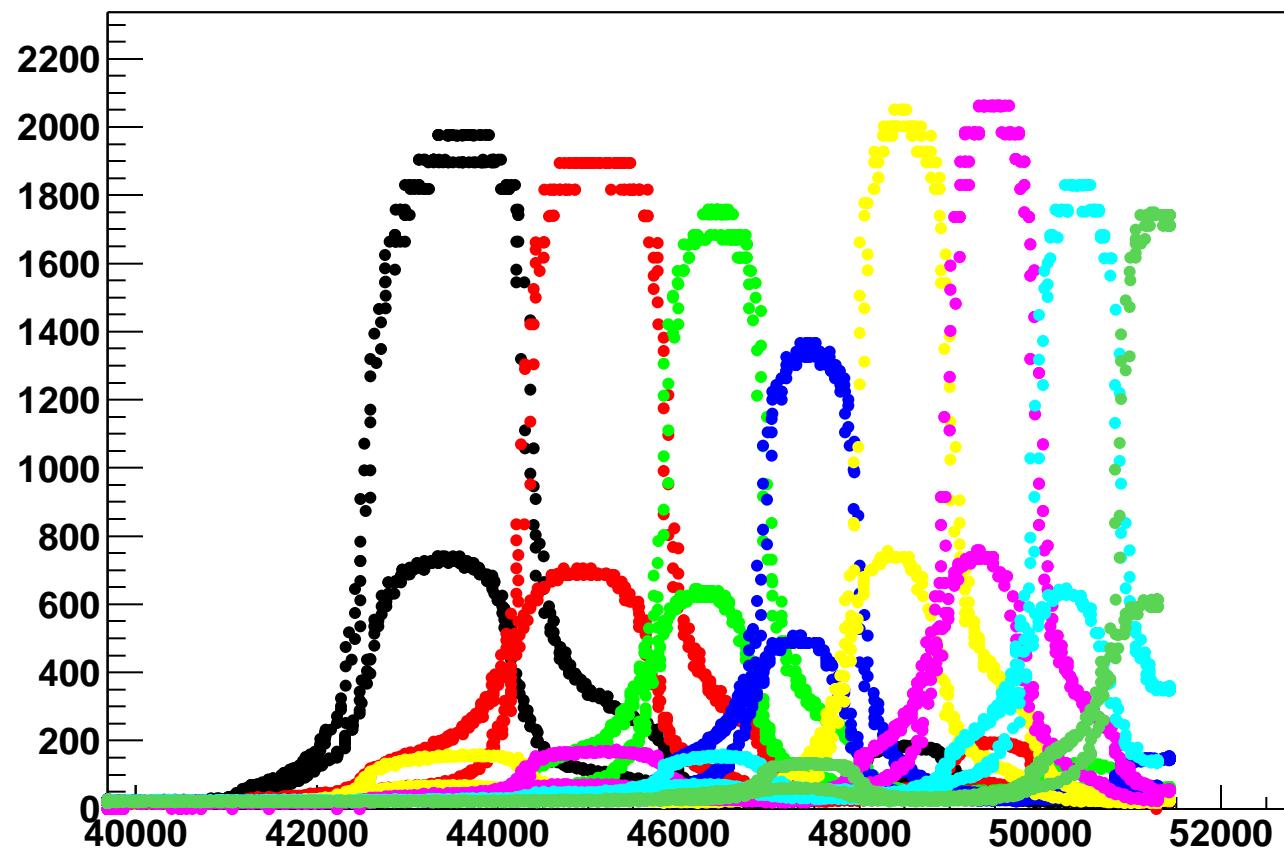
α is source strength correction factor,

$$\alpha = (1/2)^{**} (438/1924) = 0.854$$

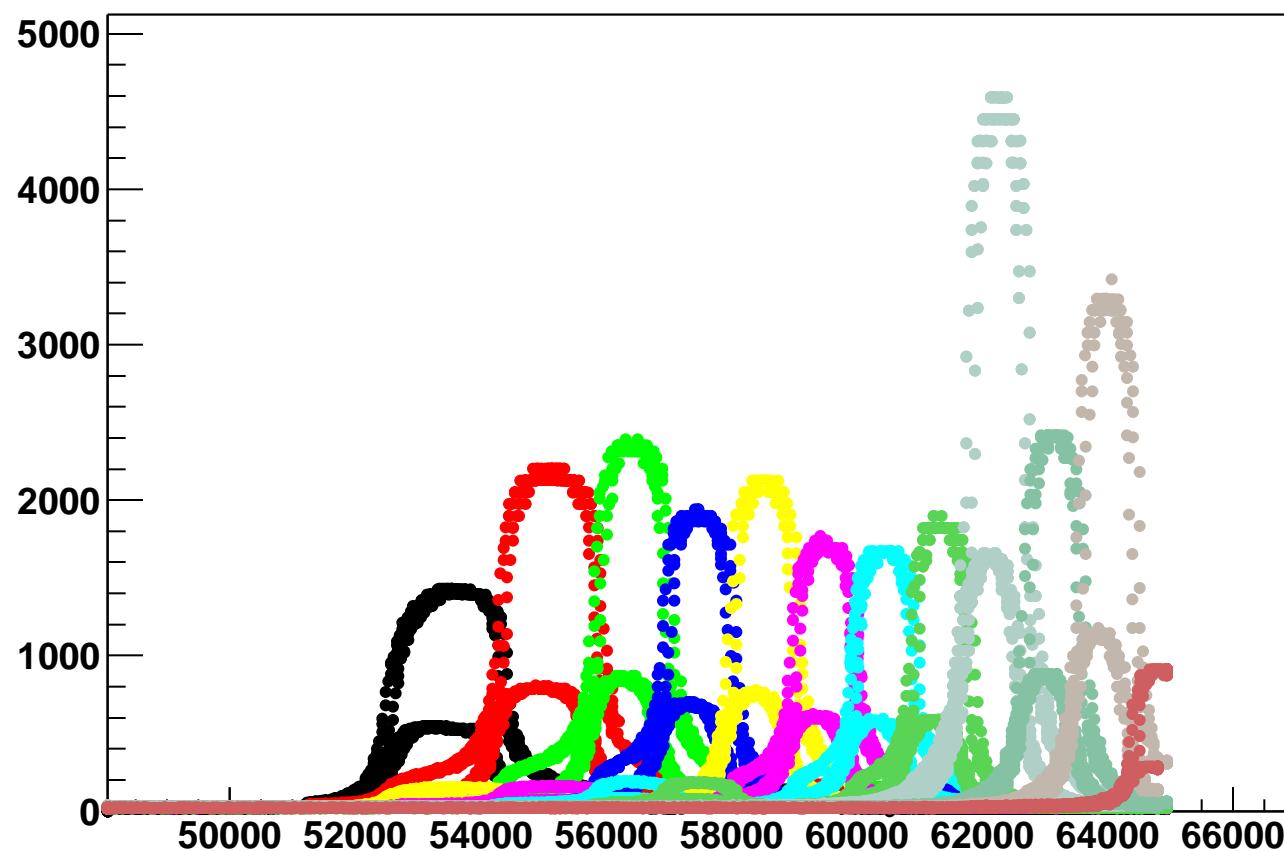
1924 days : half life of Co60 source

438 days : time duration from last source calibration (Oct '01) to Jan '03.

ppr_E[0][0][1][5]:reel[0] {reel[0]>41000}

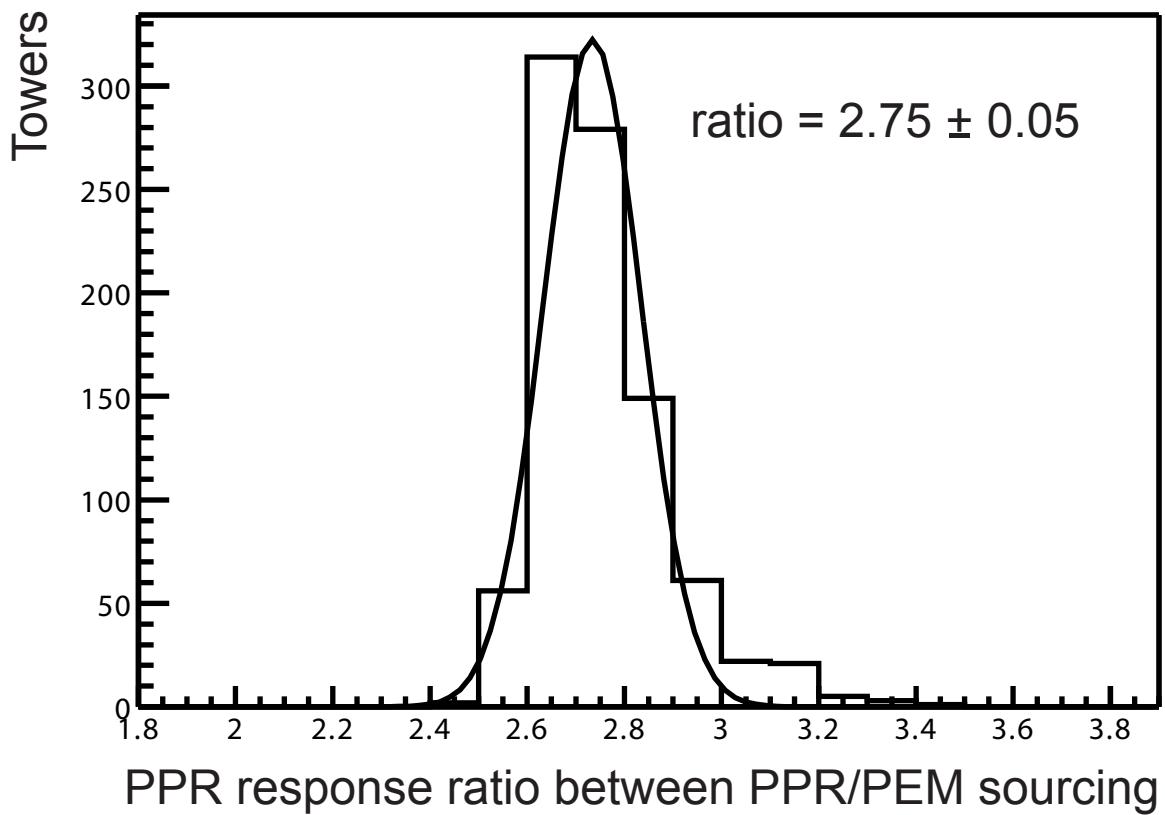


ppr_E[0][0][1][8]:reel[0] {reel[0]>50000}

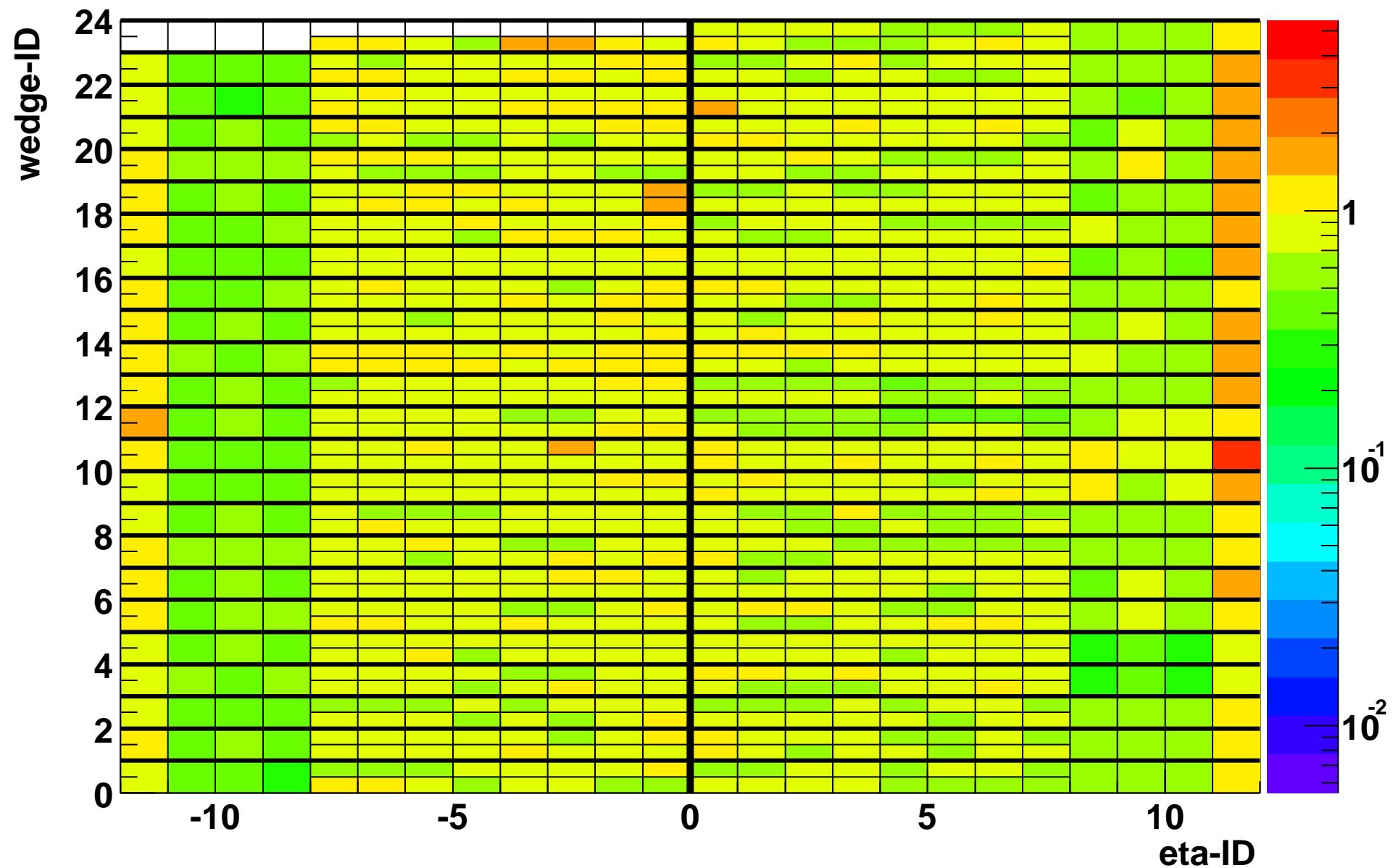


8 towers in W21 do not have PPR source calibration data
(same as the Oct '01 sourcing, due to the mechanical problem.)
To get LERs for these towers, we extrapolate PEM source calibration data.

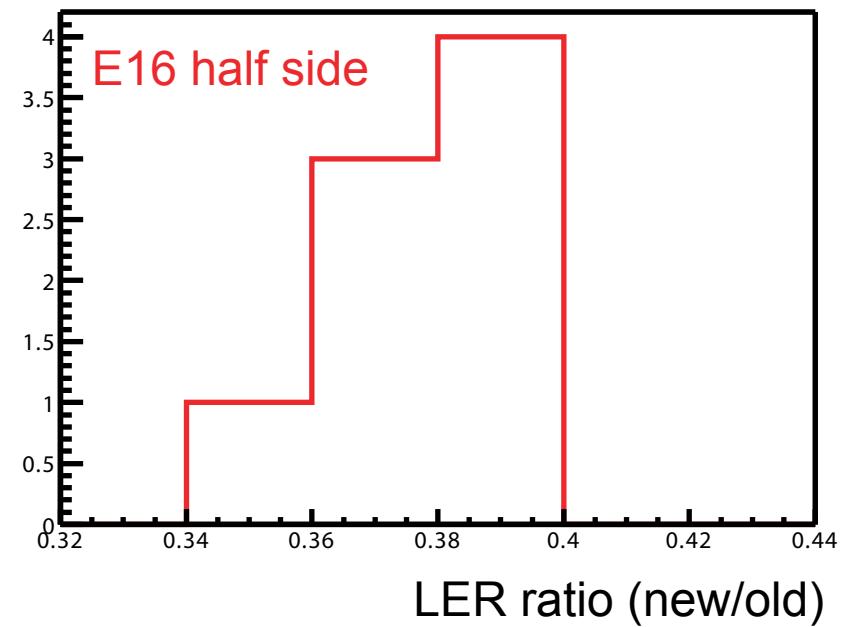
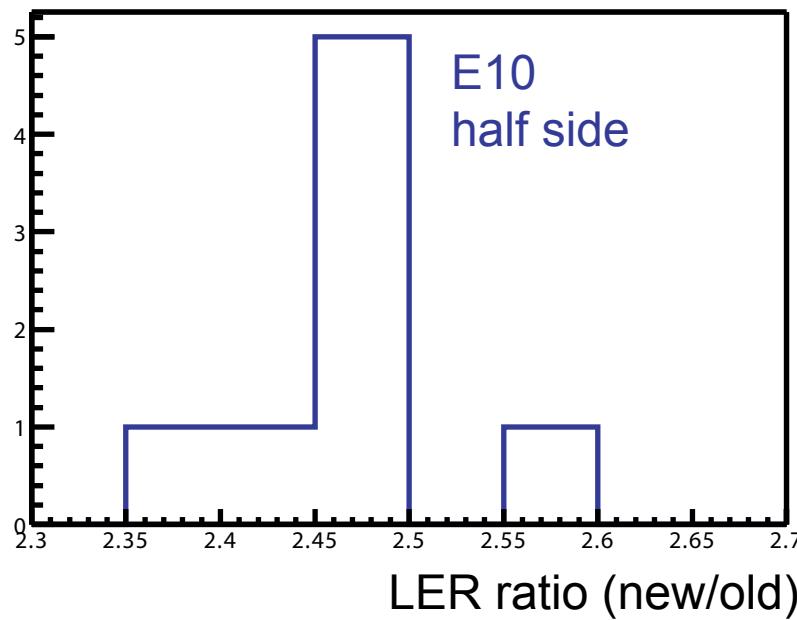
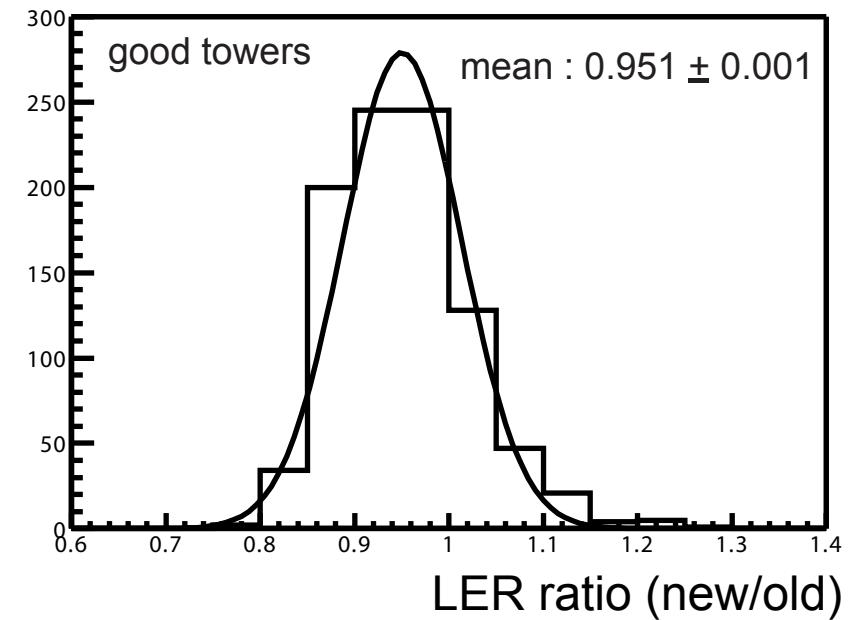
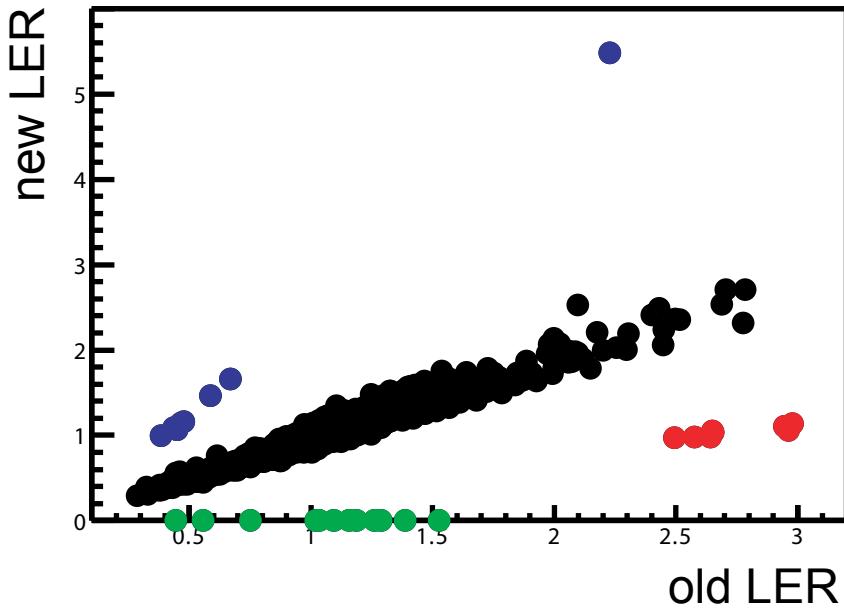
for W21 : $LER(j) = 2456 \times \alpha / Peak_PEM(j) / 2.75$
 $Peak_PEM(j)$: PPR peak response for PEM sourcing



PPR new LER (from Jan source calibration)



New (Jan '03) vs old (Oct '01) LER



Summary & plans

We obtained a new set of LERs for the PPR from Jan source calibration.

By comparing the new and old source calibration data, **no gain degredation is found**.

12 towers in W23 are not correctly calibrated this time. (maybe electronics problem)

16 towers in E10,E16 have inconsistent LERs between old and new ones.

We may need a simple validation of the LERs.
(e.g. looking response ratio of PPR/PEM
in plug Z->ee events.)

In the summer shutdown,
we would like to have a new source
calibration data for whole PPR & PEM.